REMARKS

This amendment is a full and timely response to the Office action dated May 14, 2007. Reexamination and reconsideration are respectfully requested.

Applicant appreciated Examiner's acknowledgement of receipt of priority documents.

Claims

Claims 1-3 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. App. 2002/0067414 of Tanji et al. ("Tanji") in view of U.S. Pat. No. 6,404,512 to Tone ("Tone"). This rejection is respectfully traversed.

Tanji teaches a method of adjusting the intensity level of a video signal without affecting the spectrum of the signal. (Tanji, Abstract). An ordinary gamma correction raises the intensity of input signal I_{IN} by the exponent γ, i.e., $I_{OUT} = (I_{IN})^{\gamma}$. Because this is a nonlinear operation, it can introduce high-frequency harmonic components into the signal. (Tanji, at paragraph [0004] and Fig. 30). If the original signal already contained high-frequency information near the Nyquist rate, this additional harmonics may cause parts of the signal to exceed the Nyquist rate and produce aliasing. (Tanji, at paragraph [0004]-[0005] and Figs. 31A-31D). To solve this problem, Tanji proposes using a gamma function composed of a plurality of line segments for high-frequency components of the signal. (Tanji, paragraphs [0063]-[0067] and Fig. 2B).

Tone teaches a photocopying machine that can store a plurality of predetermined gamma correction curves. (Tone, Abstract, and Fig. 1). Each of the gamma correction curves is stored as pluralities of line segments. (Tone, 8:53-9:37, and Fig. 5). A user can select from the plurality of stored gamma curves, (Tone, 11:42-12:53, and Figs. 12-13), or enter the parameters defining a new gamma curve, (Tone, 13:28-14:14, and Figs. 18-19).

While both Tanji and Tone may address gamma correction devices, neither of these references, nor any combination thereof, teaches or reasonably suggests all of the features recited in Applicant's claims. For example, with regard to claim 1, neither Tanji nor Tone teaches

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"performing gamma correction on a video signal . . . such that a corrected video signal conforms to film properties." Film, like any other medium, has a unique gamma characteristic. As described in Applicant's specification, film can capture and display a higher dynamic range than most digital display technologies are capable of rendering. (Applicant's specification, pages 1-3). Conventional gamma correction techniques (e.g., ITU-709) cannot properly convey the information recorded at the higher end of the dynamic range. More of this high-range information can be rendered by applying a conventional logarithmic curve as the gamma correction curve, but this creates an extreme slope at the low black levels which does not display properly on conventional monitors. Applicant has devised several gamma correction curves that both display the higher range information and render the low black levels properly on conventional monitors.

None of this intricacy involved in matching the display characteristics of two different media types is mentioned or even suggested by either Tanji or Tone. Both references apparently select their gamma correction curves arbitrarily without being tied to any physical constraints. Tone makes no mention whatsoever of video signals or film. While Tanji at least teaches applying gamma correction to a video signal, there is no mention of how this gamma correction curve is derived or whether it is intended to match the characteristics of another specific medium such as film. Merely teaching a gamma curve that may have a slope of less than 5.0 at the origin does not put one in possession of what Applicant has claimed.

Therefore, for at least these reasons claim 1 is patentable over this combination of references. Furthermore, claims 2 and 3, which are dependent on claim 1 and incorporate all of the limitations recited therein, are also patentable for at least these reasons. Applicant respectfully requests that this rejection under 35 U.S.C. § 103(a) be withdrawn.

Claim 4 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Tanji in view of U.S. Pat. No. 6,876,382 to Sakamoto ("Sakamoto"). This rejection is respectfully traversed.

Sakamoto teaches a system for remotely printing images while ensuring that the remotely printed image matches what is rendered on a local display. (Sakamoto, Abstract). In order to

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determine the display characteristics of the local display, the user also sends a captured image of the display while it is displaying a predetermined test pattern. (Sakamoto, 10:13-26). The remote print system obtains hardware profiles for the user's display and camera, (Sakamoto, 10:61-11:23), and uses this information along with the transmitted test pattern to estimate the proper settings to faithfully reproduce what the user's local display is rendering, (Sakamoto, 11:24-56).

While Sakamoto teaches yet another gamma correction device, it fails to teach or suggest anything regarding a gamma curve "such that the corrected video signal conforms to film properties." Sakamoto does not mention film at all. The May 14 Action specifically cites paragraph [0062] of Tanji as teaching this feature. However, at paragraph [0062], Tanji merely recites correcting "a color reproduction error resulting from the photographing performance of the CCD image sensor **10** being different from an ideal photographing performance *thereof*" (emphasis added). In other words, Tanji teaches correcting a faulty CCD image to conform to the characteristics of an ideal *CCD image*, with no mention of conforming the captured data to *film* properties. Regardless, even if Tanji did suggest a correction process for conforming the CCD captured data to film properties, it would not be a sufficiently enabling disclosure. As discussed in Applicant's specification and hereinabove, film has specific properties that could not be reproduced on conventional video monitors using traditional methods of gamma correction. Without any details regarding the nature of the gamma curve used, Tanji would not put one of ordinary skill in possession of a gamma correction device that would conform to film properties.

Furthermore, neither reference teaches or suggests

one correction curve compris[ing] a composite of a correction curve segment lying from the origin to a predetermined level of an input signal such that a corrected video signal conforms to a cathode-ray tube monitor and another correction curve segment lying above the predetermined level of the input signal such that the corrected video signal conforms to film properties, and both correction curve segments are continuously combined and have the same slope at the predetermined level of the input signal.

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Sakamoto may teach using a gamma correction that conforms to a user's display device (including possibly cathode-ray tubes), however there is no teaching or suggestion in Sakamoto of combining two different gamma curves corresponding to two different media (e.g., one gamma curve for a CRT properties and another for film properties) into a single correction curve as recited in Applicant's claim.

The May 14 Action relies on Tanji for teaching a composite gamma correction curve as recited. First, the May 14 Action proposes that the predetermined level of the input can be a point connecting two line segments shown by Tanji in Fig. 2B. However, despite the fact that the two line segments correspond to a single point on the nonlinear curve, they do *not* have the same slope. (*See* Fig. 2B). Second, the May 14 Action proposes that any point can correspond to the predetermined level, including a point midway between connecting points. While this interpretation may provide a curve that has the same slope on either end of the predetermined point, the point is not joining two different correction curves that conform, respectively, to CRT properties and film properties. Being a single, straight line, the gamma curve on either end of this proposed joining point conforms to neither, or at best could conform to only a single medium type.
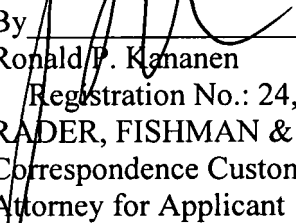
Therefore, for at least these reasons claim 4 is patentable over these references. Furthermore, the further consideration of Tone does not teach or suggest any of these features, and therefore claims 5 and 6 are also patentable for at least these reasons. Applicant respectfully requests that these rejections under 35 U.S.C. § 103(a) be withdrawn.

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In view of the above amendment, applicant believes the pending application is in condition for allowance.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 18-0013, under Order No. SON-2973 from which the undersigned is authorized to draw.

Dated: July 31, 2007

Respectfully submitted,

By _____

Ronald P. Kananen
Registration No.: 24,104
RADER, FISHMAN & GRAUER PLLC
Correspondence Customer Number: 23353
Attorney for Applicant